PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of: Kannappan	Atty. Dkt. No. 01-7131(PLANP038)
Application No: 10/812,175	Examiner: Stoffregen, Joel
Filed: March 29, 2004	Assignee: Plantronics, Inc.
Title: Speech to DTMF Conversion	Art Unit: 2626

CERTIFICATE OF MAILING TRANSMISSION

I hereby certify that this correspondence is being deposited with the US Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop AMendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or facsimile transmitted to the U.S. Patent and Trademark Office, Fax No. (571)273-8300, on December 18, 2007.

Signed: _____

Name: Jung-hua Kuo

AMENDMENT UNDER 37 C.F.R. §1.111

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is in response to the Office Action dated June 18, 2007 issued in connection with the above-identified patent application. A three-month extension of time is filed concurrently herewith extending the period for response to December 18, 2007. Accordingly, this response is timely filed. Applicant respectfully requests that the Examiner enter the amendments and consider the Remarks presented herein.

In the Claims:

This listing of claims replaces all prior versions and listings of claims in the subject application:

Listing of Claims

1. (Currently Amended) A headset system, comprising:

a headset having a headset microphone;

a speech recognition engine ~~configured to receive~~ that receives audio signals from the headset microphone, interprets ~~and to interpret~~ the audio signals received via the headset microphone when activated, ~~the speech recognition engine being further configured to interpret~~ and interprets audio signals representing at least one of digits, letters, and numbers; and

an in-band dual tone multi-frequency (DTMF) tone generator in communication with the speech recognition engine ~~and configured to generate~~ that generates in-band DTMF tones representing the interpreted at least one of digits, letters, and numbers, the tone generator directly transmits the generated tones to simulate dialing.

2. (Original) The headset system of claim 1, further comprising a DTMF activation button in communication with the speech recognition engine for activating the speech recognition engine.

3. (Original) The headset system of claim 1, wherein the speech recognition engine is activated by a voice command.

4. (Original) The headset system of claim 1, further comprising a headset base unit containing the in-band DTMF tone generator and the speech recognition engine.

5. (Original) The headset system of claim 1, wherein the headset further includes the in-band DTMF tone generator and the speech recognition engine.

6. (Original) The headset system of claim 1, further comprising a voice synthesizer in communication with the speech recognition engine.

7. (Currently Amended) The headset system of claim 6, further comprising a headset speaker in communication with the voice synthesizer, the speech recognition engine ~~is further configured to confirm~~ confirms accuracy of the interpreted audio signals via the speech recognition engine and the headset speaker.

8. (Original) The headset system of claim 1, wherein the in-band DTMF tone generator generates in-band DTMF tones with a direct correspondence to the interpreted audio signals.

9. (Currently Amended) The headset system of claim 1, wherein the speech recognition engine ~~is configured to process~~ processes audio signals for a plurality of the at least one of digits, letters, and numbers and the in-band DTMF tone generator ~~is configured to generate~~ generates a plurality of in-band DTMF tones in response thereto.

10. (Currently Amended) The headset system of claim 1, wherein the speech recognition engine ~~is configured to process~~ processes audio signals for the at least one of a digit, letter, and number individually, and the in-band DTMF tone generator ~~is configured to generate~~ generates an in-band DTMF tone in response thereto.

11. (Currently Amended) The headset system of claim 1, wherein the speech recognition engine ~~is further configured to interpret~~ interprets a predefined set of commands and/or user responses.

12. (Currently Amended) A method for navigating through a dual tone multi-frequency (DTMF) controlled system, comprising:

activating a speech recognition engine;

interpreting speech received via a microphone from a user by the speech recognition engine, the speech recognition engine ~~being configured to interpret~~ interprets the speech representing at least one of digits, letters, and numbers; and

generating and transmitting in-band DTMF tones representing the interpreted speech by an in-band DTMF tone generator in communication with the speech recognition engine, the tone generator directly transmits the generated tones to simulate dialing.

13. (Original) The method of claim 12, wherein the activating the speech recognition engine is via a DTMF activation button in communication with the speech recognition engine.

14. (Original) The method of claim 12, wherein the activating the speech recognition engine is via voice command from the user.

15. (Original) The method of claim 12, further comprising, prior to the generating and transmitting, confirming accuracy of the speech interpreted by the speech recognition engine by generating the interpreted speech via a voice synthesizer.

16. (Original) The method of claim 12, wherein the in-band DTMF tone is direct translation of the interpreted speech.

17. (Currently Amended) The method of claim 12, wherein the speech recognition engine ~~is configured to process~~ processes speech for a plurality of the at least one of digits, letters, and numbers and the in-band DTMF tone generator ~~is configured to generate~~ generates a plurality of in-band DTMF tones in response thereto.

18. (Currently Amended) The method of claim 12, wherein the speech recognition engine ~~is configured to process~~ processes speech for the at least one of a digit, letter, and number individually, and the in-band DTMF tone generator ~~is configured to generate~~ generates an in-band DTMF tone in response thereto.

19. (Currently Amended) The method of claim 12, wherein the speech recognition engine is ~~further configured to interpret~~ interprets a predefined set of commands and/or user responses.

20. (Currently Amended) A method, comprising:

connecting to a DTMF-controlled system, in which navigation through the DTMF-controlled system is via transmission of DTMF tones thereto;

interpreting speech by a speech recognition engine ~~configured to receive~~ that receives speech from a user; and

generating and transmitting in-band DTMF tone to the DTMF-controlled system, the in-band DTMF tones being a translation of the interpreted speech selected from at least one of digits, letters, and numbers, the tone generator directly transmits the generated tones to simulate dialing.

21. (Original) The method of claim 20, further comprising, after the connecting, activating the speech recognition engine.

22. (Original) The method of claim 20, further comprising, prior to the generating and transmitting, confirming accuracy of the speech interpreted by the speech recognition engine by generating the interpreted speech via a voice synthesizer.

23. (Original) The method of claim 20, wherein the in-band DTMF tone is a direct translation of the interpreted speech.

24. (Currently Amended) The method of claim 20, wherein the speech recognition engine ~~is configured to process~~ processes speech for a plurality of the at least one of digits, letters, and numbers and the in-band DTMF tone generator is configured to generate a plurality of in-band DTMF tones in response thereto.

25. (Currently Amended) The method of claim 20, wherein the speech recognition engine ~~is configured to process~~ processes speech for the at least one of a digit, letter, and number individually, and the in-band DTMF tone generator ~~is configured to generate~~ generates an in-band DTMF tone in response thereto.

26. (Currently Amended) The method of claim 20, wherein the speech recognition engine ~~is further configured to interpret~~ interprets a predefined set of commands and/or user responses.

REMARKS

Claims 1-26 are pending. All claims 1-26 are believed to be allowable over the references cited by the Examiner as discussed below. Accordingly, a Notice of Allowance for the present application is respectfully requested.

Objections

Claims 1, 7, 9-12, 17-20, and 24-26 were objected to. These claims are amended to clarify the subject matter of the invention. Withdrawal of the claim objections is respectfully requested.

Rejection of Claims Under 35 U.S.C. §102(b)

Claims 1, 2, 4-13, and 15-26 stand rejected under 35 U.S.C. 102(b) as being anticipated by Fujisaki.

Independent claim 1, as amended, recites a headset system that generally includes a headset having a headset microphone, a speech recognition engine that interprets audio signals when activated and interprets audio signals representing at least one of digits, letters, and numbers, and an in-band DTMF tone generator that generates in-band DTMF tones representing the interpreted at least one of digits, letters, and numbers, *the tone generator directly transmits the generated tones to simulate dialing.*

Independent claim 12, as amended, recites a method for navigating through a DTMF controlled system that generally includes activating a speech recognition engine, interpreting speech received via a microphone from a user by the speech recognition engine, the speech recognition engine-interprets the speech representing at least one of digits, letters, and numbers, and generating and transmitting in-band DTMF tones representing the interpreted speech by an in-band DTMF tone generator in communication with the speech recognition engine, *the tone generator directly transmits the generated tones to simulate dialing.*

Independent claim 20, as amended, recites a method that generally includes connecting to a DTMF-controlled system, in which navigation through the DTMF-controlled system is via transmission of DTMF tones thereto, interpreting speech by a speech recognition engine, and generating and transmitting in-band DTMF tone to the DTMF-controlled system, the in-band DTMF tones being a translation of the interpreted speech selected from at least one of digits,

letters, and numbers, *the tone generator directly transmits the generated tones to simulate dialing*.

In contrast, Fujisaki discloses a dialer that a user controls using speech and the system retrieves the desired number to be dialed from one of its memories. Rather than generating tones for direct transmission to simulate dialing, Fujisaki's tone generator 4 is provided merely to facilitate the storing of the telephone numbers into memory.

For example, Fujisaki states "It is a further object of the invention to provide a voice controlled automatic dialer which allows users to verify their input utterances in the form of synthesized speech or a multifrequency tone." (Col. 1, lines 40-42). "The output of the tone generator 4, whether multiple frequencies or single frequency, is in the form of a burst of duration *sufficient to permit the user to identify each input utterance. The duration of 100 millisecond is found to be appropriate for this purpose.*" (Col. 3, lines 39-43). "The outputs of the tone generator 4 and speech synthesizer 5 are selectively coupled through a switch 6 to the receiver 11 *to allow the user to confirm that his or her utterances are correctly interpreted* by the speech recognizer 2." (Col. 3, lines 48-52). "If a command word is entered subsequently, decision circuit 26 applies a control signal to switch 6 to supply the output of speech synthesizer 5 in place of the output of tone generator 4 to the receiver 11 to give a synthesized sound of the input command word *for confirmation of the command words by the user.*" (Col. 3, lines 60-66)

As is evident, the tones generated by Fujisaki's tone generator is merely for the purpose of allowing the user to verify correct interpretation of the input, not for direct transmission to the dialing circuit 7 to simulate dialing.

Withdrawal of the rejection of claims 1, 12, and 20 as well as claims dependent therefrom under 35 U.S.C. §102(b) is respectfully requested.

Rejection of Claims Under 35 U.S.C. §103(a)

Claims 3 and 14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over by Fujisaki in view of Borcherding.

However, claims 3 and 14 are believed to be allowable because independent claims 1 and 12 from which they depend, respectively, are believed to be allowable as discussed above.

Withdrawal of the rejection of claims 3 and 14 under 35 U.S.C. §103(a) is respectfully requested.

CONCLUSION

Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

In the unlikely event that the transmittal letter accompanying this document is separated from this document and the Patent Office determines that an Extension of Time under 37 CFR 1.136 and/or any other relief is required, Applicant hereby petitions for any required relief including Extensions of Time and/or any other relief and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 50-2315 (Order No. 01-7131).

Respectfully submitted,

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Assignee: Plantronics, Inc.

Art Unit: 2626

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith is an amendment in the above-identified application.
The fee has been calculated as shown below.

	Claims Remaining After Amendment		Highest Previously Paid For Extra		Present	SMALL ENTITY RATE FEE			OR	LARGE ENTITY RATE FEE		
Total Claims	_____	-	_____		_____	x =	$			OR	x =	$
Ind. Claims	_____	-	_____		_____	x =	$			OR	x =	$
					TOTAL	$_____					$	

☒ Applicant(s) hereby petition for a three month(s) extension of time to respond to the Office Action. Please charge $**1,050.00** to Deposit Account No. **50-2315** (Order No. **01-7131**). A copy of this sheet is enclosed.

☒ Applicant believe that no (additional) Extension of Time is required; however, if it is determined that such an extension is required, Applicant hereby petition that such an extension be granted and authorize the Commissioner to charge the required fees for an Extension of Time under 37 CFR 1.136 to Deposit Account No. 50-2315 (Order No. **01-71315**).

☒ If the required fees are missing or any additional fees are required during the pendency of the subject application, please charge such fees or credit any overpayment to Deposit Account No. 50-2315 (Order No. **01-7131**). A copy of this sheet is enclosed.

Respectfully submitted,

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